

## ABSTRACT

A Photo-Multiplier Tube (PMT) base for supplying long-term stable power, gain control and output amplification to a PMT. The present PMT base integrates the circuitry required for the dynode stages of the PMT with an amplifying circuit that amplifies the PMT output signals without disturbing the stable power that is required by each of the dynode stages. In operation the PMT base is electrically and mechanically connected to a PMT. The circuits for the dynode stages primarily provide gain control for each dynode stage in the PMT. The amplifying circuit in the PMT base is electrically connected to a dynode, the anode or both a dynode and the anode of the PMT, from which the PMT output signal is received. A PMT high voltage divider supplies the power to the circuitry required for the dynode stages and the amplifying circuit in the PMT base. The PMT base can be replaceable and can replace PMT bases that do not have an integrated amplifier for the PMT output signal. The present PMT base extends the life of PMT's by reducing the currents consumed by the dynodes in the PMT.